

# Active Reading

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## Section 2: The Cycling of Materials

Read the passage below and answer the questions that follow.

When we burn fossil fuels, we release carbon into the atmosphere. The carbon returns to the atmosphere as carbon dioxide. Cars, factories, and power plants rely on these fossil fuels to operate. In the year 1999, vehicles were the source of one-third of all carbon dioxide emitted in the United States. Each year, about 8.4 billion metric tons of carbon dioxide are released into the atmosphere by the burning, or combustion, of fossil fuels and the natural burning of wood in forest fires. About half of this carbon dioxide remains in the atmosphere. As a result, the amount of carbon dioxide in the atmosphere has steadily increased.

Increased levels of carbon dioxide in the atmosphere are the major contributor to climate change. Carbon dioxide is a greenhouse gas. Greenhouse gases, including water vapor and other gases absorb and reradiate infrared energy, warming Earth. Plants absorb some of the carbon dioxide, but scientists estimate that, each year, over a billion metric tons of carbon dioxide dissolves into the ocean, a carbon sink. The increase in carbon dioxide can lower the pH, which can impact marine organisms.

### IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently a main idea is accompanied by supporting information that offers detailed facts about main ideas.

Read each question and write the answer in the space provided.

1. What do most cars, factories, and power plants rely on to operate?

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2. In what form does carbon return to the atmosphere after it is released from the burning of fossil fuels?

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3. One-third of the United States' carbon consumption is used to operate what?

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**Active Reading** *continued*

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4. How many tons of carbon are released into Earth's atmosphere every year?

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5. Why does the author mention the United States in the fourth sentence?

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**VOCABULARY DEVELOPMENT**

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- \_\_\_\_\_ 6. Which of the following statements is true about fossil fuels, carbon, and carbon dioxide?
- a. Carbon dioxide returns to the atmosphere as carbon when fossil fuels are burned.
  - b. Fossil fuels return to the atmosphere as carbon dioxide when carbon is burned.
  - c. Carbon returns to the atmosphere as carbon dioxide when fossil fuels are burned.
  - d. none of the above

**RECOGNIZING CAUSE AND EFFECT**

One reading skill is the ability to recognize cause and effect.

Read each question and write the answer in the space provided.

7. What three things cause carbon to be released into the atmosphere as carbon dioxide?

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8. What is one effect of increased levels of carbon dioxide in the atmosphere?

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